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<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/775,872	PATEL ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Jerry T. Rahll	2874	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to application received 10 February 2004.
2. ☒ The allowed claim(s) is/are 1-20.
3. ☒ The drawings filed on 23 June 2004 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.


Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

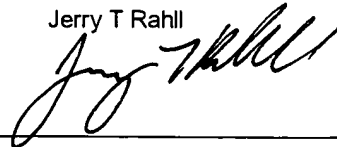
5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date 10 May 2004
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

  
AKM ENAYET ULLAH  
PRIMARY EXAMINER

Jerry T Rahll



## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The information disclosure statement (IDS) submitted on 10 May 2004 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

### ***Drawings***

2. The drawings submitted on 23 June 2004 have been reviewed and determined to facilitate understanding of the invention. The drawings are accepted as submitted.

### ***Allowable Subject Matter***

3. The following is an examiner's statement of reasons for allowance. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

4. Claims 1-20 are allowed. Claims 1-20 describe a method of forming a tapered evanescent coupling region including the steps of providing a polished silicon substrate, depositing a photoresist material across the top of the substrate, patterning the photoresist surface to define a tapered area of photoresist, etching the patterned surface to transfer the tapered pattern from the photoresist to the underlying silicon substrate to form a tapered opening in the silicon substrate and filling the tapered opening with a material having a lower index of refraction than the silicon substrate to define the tapered evanescent coupling region.

5. U.S. Patent No. 6,760,529 to Chong et al. describes a method of forming a tapered coupling region including the steps of providing a silicon substrate (11, 12), depositing a

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photoresist (13) material across the top of the substrate, patterning (Figures 1, 2) the photoresist surface, etching the patterned surface (Figure 3) to form a tapered opening in the silicon substrate and filling the tapered opening with a material (figures 4-6) to define the tapered evanescent coupling region. Chong et al. does not describe the patterning of the photoresist to define a tapered area of photoresist. Further, Chong et al. does not describe the etching step as transferring the tapered pattern from the photoresist to the underlying silicon substrate.

6. U.S. Patent No. 6,760,529 to Chong et al. remains the closest prior art of record in this application. For the reasons stated above, however, Claims 1-20 herein are deemed to patentably distinguish over Chong et al. and all other prior art of record.

### *Conclusion*

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patents 5,513,288, 5,515,464 and 5,910,012 describe tapered optical couplers.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerry T. Rahll whose telephone number is (571) 272-2356. The examiner can normally be reached on M-Th (8:30-5:30).


9. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jerry T Rahll



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